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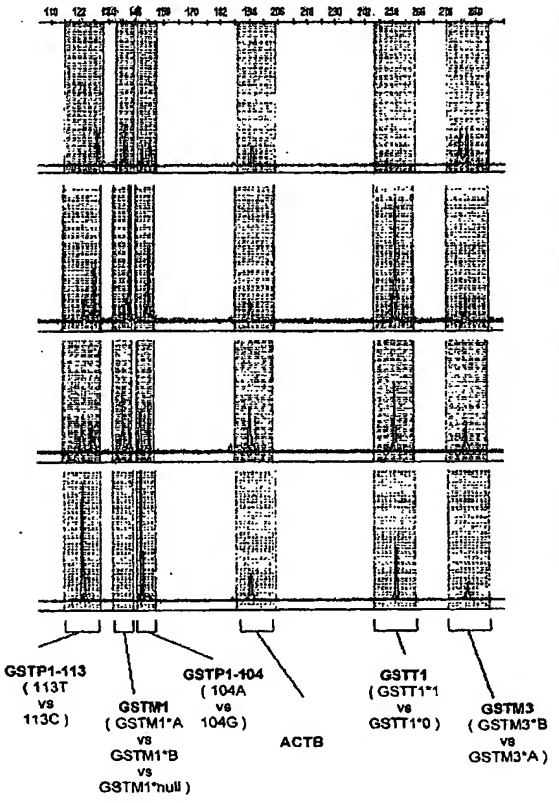
(54) Title: HIGH THROUGHPUT DETECTION OF GLUTATHIONE S-TRANSFERASE POLYMORPHIC ALLELES



(57) Abstract: High throughput assays for detecting glutathione S-transferase polymorphic alleles are disclosed. The assays of the invention utilize a biological sample obtained from a patient. Genomic DNA is obtained from the biological sample. A portion of the DNA is amplified using PCR to detect GSTM1 alleles, a second portion of the DNA is amplified to detect GSTM3 and GSTT1 alleles, and another portion of the DNA is amplified to detect GSTP1 alleles. The PCR amplification products may then be combined, and the glutathione S-transferase polymorphic alleles may be detected based on PCR amplification product size differences and fluorescent tag differences. The assays of the invention are designed for high throughput use such as in large clinical trials. The assay generally circumvents the use of restriction endonucleases, while allowing all analyses to be performed simultaneously. In addition, the assay permits detection of all four clinically-significant GST polymorphic alleles.

WO 2004/036179 A2